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For	: METHOD AND APPARATUS FOR DISPLAYING SPEECH RECOGNITION PROGRESS	Examiner: A Armstrong
Docket No.	: M61.12-0144	

RESPONSE

Commissioner for Patents
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Sir:

This is in response to the Office Action mailed on October 27, 2003 in which claims 1-33 were rejected.

Claims 1 and 2

Independent claim 1 and dependent claim 2 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk et al. (U.S. Patent No. 6,075,537, hereinafter VanBuskirk) in view of Tannenbaum (U.S. Patent No. 6,233,560) and Imade (U.S. Patent No. 6,311,160).

Independent claim 1 provides a method of displaying images on a display device. The method includes displaying an insertion marker at an insertion area on a display and displaying a progress meter near the insertion area based on the location of the insertion marker. The progress meter quantitatively indicates the amount of progress in decoding a speech input.

VanBuskirk describes a volume tracking window for a speech recognition system. Under VanBuskirk, the detected volume of a speech signal is represented in a window by changing the color of the entire window or by moving a colored bar horizontally to show the current volume. The volume tracking window in VanBuskirk may

be a "floating window", however, VanBuskirk does not show or suggest that the volume tracking window should be placed near an insertion marker. In addition, VanBuskirk does not show or suggest a progress meter that shows the amount of progress in decoding an input speech signal.

Tannenbaum discloses a speech recognition interface in which fully recognized phrases or commands are displayed in a box. Under Tannenbaum, the recognized phrase or command is used to determine where to position the box on the display. Tannenbaum does not disclose displaying a progress meter that indicates the amount of progress in decoding a speech signal. In addition, because Tannenbaum requires the recognition of the command before it can determine where to place the recognition result, its teachings could not be used to position a recognition progress meter since the commands would not be known during the period of time when the progress meter needs to be displayed. Thus, under Tannenbaum, it would not be possible to place a progress meter near an insertion area since the command is unknown until recognition is complete.

Imade describes a device that converts speech into a collection of dots that are printed on a piece of paper. During the conversion, the speech is first compressed/encoded and then stored in a memory. After the compressed speech has been stored, a further encoding step is performed. While this further encoding step is being performed, the compressed speech is expanded and reproduced through a speaker. Imade includes five Light Emitting Diodes that "show the progress of speech reproduction" based on the number of frames that have been "subjected to the expansion processing operation". (See Imade, Col. 6, lines 16-33). Imade does not show a progress meter that shows the progress in decoding an input speech signal and does not show or suggest placing a progress meter near an insertion marker.

The combination of VanBuskirk, Tannenbaum and Imade does

not show or suggest the invention of claim 1 because none of these references show or suggest a progress meter that quantitatively indicates the amount of progress in decoding a speech input or the ability to place such a progress meter at an insertion area.

In the Office Action, it was asserted that a progress meter that quantitatively indicates the amount of progress in decoding a speech input was obvious from Imade because Imade shows the "progress of the volume of data being reproduced". Applicants, respectfully dispute this assertion.

Under Imade, the LED display is used to indicate how many frames of speech have been input to the system or output through the speakers. The LED display is not used to indicate the amount of progress in decoding a speech input. In fact, Imade suggests that even if there is an LED display available, one should not show the progress of decoding. This can be seen from the fact that Imade does not use the LEDs to show the progress of further encoding the compressed speech signal. Instead, Imade uses the LEDs to show the amount of speech output to the speakers. Note that this is done even though the user has a good idea of the amount of speech output to the speaker based on the output speech produced by the speaker. (A user generally knows what they said and when they hear it played back they would have a general idea of how much speech is left to be played back.) Thus, even when there are other indications of the amount of speech that has been played back to the user, Imade teaches that a visual display should indicate the amount of playback instead of the amount of further encoding that has been performed on the speech signal.

As a result, if Imade where combined with a speech recognition system, it would suggest that a visual indication should be provided to indicate how much input speech has been received but would not suggest that a visual indication of the progress in decoding the speech signal should be provided. Viewing Imade without the present application in mind, there is

clearly no suggestion of a quantitative progress meter that shows the progress in decoding a speech signal. Since VanBuskirk and Tannenbaum also fail to show such a progress meter, the combination of these references fails to show or suggest a quantitative progress meter that shows the progress in decoding a speech signal.

In addition, the combination of references does not show or suggest the ability to place a progress meter at an insertion area designated by an insertion marker. In the Office Action, it was asserted that Tannenbaum teaches this aspect of the invention because it teaches that recognized commands should be displayed at a location functionally related to the analyzed contents and context of the voice input. However, the teachings of Tannenbaum could not be applied to a progress meter. In particular, Tannenbaum's system requires that the input be analyzed to determine which command has been spoken. See column 2, lines 40-47 and column 7, lines 7-24. Note in particular that the system does not know if the user has issued a command to open a file or move a cursor until it has decoded the word spoken by the user. Without that information, Tannenbaum does not know whether to place the feedback near the tool bar or near the cursor. Thus, Tannenbaum must wait for the recognition to be performed before placing its feedback box on the screen.

However, waiting to place the feedback box until after the recognition is complete defeats the purpose of displaying a progress meter indicating the progress of recognition. In particular, since Tannenbaum must wait for the full recognition to finish, it is impossible for Tannenbaum's system to be used to place a progress meter that must be displayed before the recognition is completed.

In light of the fact that none of the cited references provide a system that allows a progress meter to be positioned at an insertion marker and because there is no suggestion in the

cited references for displaying a quantitative progress meter that indicates the progress in decoding a speech signal, the invention of claims 1 and 2 is patentable over VanBuskirk, Tannenbaum and Imade.

Claim 3

Dependent claim 3 depends from claim 1. In claim 3, a user's speech input is converted into an analog speech signal and that signal is converted into at least one digital speech value. The at least one digital speech value is then transformed into coordinates for at least one shape on the display which is positioned near the progress meter.

Claim 3 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, and Tannenbaum.

The combination of VanBuskirk, Imade and Tannenbaum does not show or suggest a display that includes both a progress meter and a shape that is formed by transforming a digital speech value into coordinates.

In the Office Action, it was asserted that VanBuskirk teaches that a multi-function graphical user interface should be shown in as small a space as possible and that it would therefore be obvious to display a volume meter near a progress meter. Applicants dispute this assertion.

First, Applicants note that none of these references show or suggest a progress meter that quantitatively shows the amount of progress in decoding a speech signal. Thus, those skilled in the art would first have to create such a progress meter from these references without even a suggestion in any of the references that such a progress meter should be constructed.

After the progress meter is constructed, those skilled in the art would still not have produced the invention of claim 3. To produce the invention of claim 3, those skilled in the art would have to take the further step of combining the progress meter with

another shape formed by transforming a digital speech value. However, there is no suggestion in the art for combining a progress meter with such a shape in the cited art.

Although VanBuskirk does teach that different types of information can be conveyed in the same graphical interface, it does not show or suggest that a shape formed by transforming a digital speech value should be combined with a progress meter.

Since none of the cited references show or suggest a progress meter that shows the progress in decoding a speech signal, the combination of references cannot show or suggest the combination of such a progress meter and a shape generated from a digital speech value. As such, claim 3 is patentable over VanBuskirk, Imade and Tannenbaum.

Claim 4

Claim 4 depends from claim 3. In claim 4, the step of transforming at lest one digital speech value into coordinates includes applying a mathematical function to the at least one digital speech value to produce a transform value and using the transform value to identify coordinates for the shape on the display.

Claim 4 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George et al. (U.S. Patent No. 6,018,711, hereinafter French-St. George).

French-St. George discloses an animation that indicates the amount of time the user has left in which to provide speech input to a speech recognizer. French-St. George does not suggest that this animation should be placed near an insertion point and does not show or suggest a progress meter that indicates the amount of progress in decoding an input speech segment. In addition, French-St. George does not suggest identifying coordinates for at least one shape on the display by applying a

mathematical function to at least one digital speech value to produce a transform value.

In fact, none of the references in the combination of VanBuskirk, Imade, Tannenbaum, and French-St. George show or suggest applying a mathematical function to at least one digital speech value to produce a transform value and then using that transform value to identify coordinates for at least one shape on a display. In rejecting claim 4, the Examiner never asserted that any of the references show a mathematical function applied to at least one digital speech value to produce a transform value. As such, the invention of claim 4 is not shown or suggested in the combination of the references cited by the Examiner and claim 4 is therefore patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 5

Claim 5 depends from 4. Claim 5 includes a further limitation wherein applying a mathematical function comprises taking the logarithm value of at least one digital value. This additional limitation is not shown or suggested in the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 5 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, none of the cited references show or suggest taking a logarithm of a digital speech value. Furthermore, the Examiner has not asserted that any particular section of any of these references shows the taking of a logarithm of a digital speech value.

Since none of the references show or suggest taking the logarithm of a speech value, claim 5 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 6

Claim 6 depends from 4 and includes a further limitation wherein the mathematical function comprises taking the square root of at least one digital value.

Claim 6 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

None of the cited references show or suggest taking the square root of at least one digital speech value to produce a transform value that is then used to identify the coordinates of at least one shape on the display. In addition, no section of the references has been cited as showing the application of a square root function to a digital speech value.

As such, claim 6 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 7

Claim 7 depends from claim 4. In claim 7, coordinates of the base rectangle are determined by determining a base point for the base rectangle on the display, accessing a stored rectangle width, and accessing a maximum transform value. The transform value formed from the digital speech value is divided by the maximum transform value to produce a transform ratio. A height is calculated based in part on the transform ratio. The coordinates of the base rectangle are then calculated based on the base point, the stored rectangle width, and the calculated height.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, none of the cited references show or suggest the steps of claim 7. In particular, none of the cited references show or suggest accessing a maximum transform value, dividing a transform value produced from a digital speech value by the maximum transform value, or using the resulting ratio to calculate

coordinates for a base rectangle.

Since none of these steps are shown in any of the references, the invention of claim 7 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 8

Claim 8 depends from claim 7 and includes a further limitation where determining a calculated height includes determining if the transform ratio is greater than a maximum height ratio for the base rectangle and if it is, performing a further step of multiplying the maximum height ratio for the base rectangle by the full meter height to produce the calculated height.

Claim 8 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George. However, none of the cited references show or suggest the steps of claim 8. In particular, none of the references show a step of comparing a transform ratio to a maximum height ratio for a base rectangle to determine which is larger. In addition, none of the references show or suggest performing a further step of multiplying the maximum height ratio for the base rectangle by a full meter height if the transform ratio is greater than the maximum height ratio.

Since none of the cited references show these steps, the combination of these references does not show or suggest these steps. As such, claim 8 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 9

Claim 9 depends from claim 8 and was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French St. George.

In claim 9, the maximum height ratio for the base

rectangle is subtracted from the transform ratio to produce an excess ratio. A second rectangle height is then determined based in part on the excess ratio. The coordinates of a second rectangle are then calculated based on the coordinates of the base rectangle, a stored rectangle width, and the second rectangle height.

None of the cited references show a step of subtracting a maximum height ratio from a transform ratio or a step of using the resulting difference to determine the height of a second rectangle. As such, the combination of references does not show the invention of claim 9. Claim 9 is therefore patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 10

Claim 10 depends from claim 9 and includes a further limitation wherein determining the second rectangle height involves comparing the excess ratio to a maximum height ratio for the second rectangle.

Claim 10 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, no particular section of any of these references was cited by the Examiner to support the rejection of claim 10 and in fact, no section of these references shows a step of determining a rectangle height for a second rectangle. As such, claim 10 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 11

Claim 11 depends from claim 10 and was rejected under 35 U.S.C. § 103(a) as being obvious from VanBuskirk, Imade, Tannenbaum and French-St. George.

Under claim 11, the maximum height ratio for the second rectangle is subtracted from the excess ratio to produce a

remainder ratio. A third rectangle height is then determined by multiplying the remainder ratio by the full meter height. The coordinates of a third rectangle is then determined from the third rectangle height.

None of the references in the combination of VanBuskirk, Imade, Tannenbaum and French-St. George shows or suggests determining the coordinates of a third rectangle. In the Office Action, no portion of any of these references was cited as disclosing the calculation of a third rectangle. As such, the invention of claim 11 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 12

Claim 12 depends from claim 7. Claim 12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 12 includes a limitation to calculating the coordinates of a background rectangle where the background rectangle appears somewhere between the base rectangle and a point at a full meter height above a bottom edge of the base rectangle. None of the cited references disclose calculating the coordinates of such a background rectangle. In addition, the Office Action did not cite any portion of these references as showing such a background rectangle. As such, the invention of claim 12 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 13

Claim 13 depends from independent claim 1. Claim 13 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade and Tannenbaum and as being unpatentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

In claim 13, the progress meter of claim 1 is displayed by dividing the speech input into frames, and decoding at least one of the frames of the speech input into a sub-word unit. A frame number for the last frame to be decoded is divided by the total number of frames to produce a decode ratio. The progress meter is then displayed based on this decode ratio.

Because claim 13 depends from claim 1, it includes the limitation to displaying a progress meter that quantitatively shows the progress in decoding a speech signal. As discussed above for claim 1, this limitation is not shown or suggested in the combination of VanBuskirk, Imade, and Tannenbaum. In addition, this limitation is not shown or suggested in French-St.George.

French-St.George displays an animation that indicates how much time is left to provide speech input. French-St.George does not show or suggest a progress meter that shows the progress of decoding a speech signal. As such, its combination with VanBuskirk, Imade and Tannenbaum does not show this limitation of claim 1 and claim 13. Therefore, claim 13 is patentable over the combination of VanBuskirk, Imade and Tannenbaum and French-St. George.

Claim 14

Claim 14 depends from claim 13. Claim 14 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade and Tannenbaum and as being unpatentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 14 includes limitations to multiplying the decode ratio by a full meter width to determine a progress width and calculating the coordinates of a progress rectangle based on the progress width, a stored meter height and a base point on the display. None of the cited references show or suggest multiplying

a decode ratio by a full meter width, nor do they show or suggest calculating the coordinates of a progress rectangle based on the result of such a multiplication. Since none of the references show any of these steps, their combination does not show or suggest the invention of claim 14, and claim 14 is therefore patentable over VanBuskirk, Imade and Tannenbaum and the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 15

Claim 15 depends from claim 12 and was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, no particular section of any of these references was cited as showing or suggesting any of the elements of claim 15.

In claim 15, the speech input is divided into frames and at least one frame of the speech is decoded into a sub-word unit. A frame number for the last frame to be decoded is divided by the total number of frames to produce a decode ratio. A progress meter is then displayed based on the decode ratio by changing the color of at least one background rectangle.

None of the cited references discuss using a decode ratio to change the color of at least one background rectangle and thereby display a progress meter.

Since none of the references discuss this step, their combination does not show or suggest the steps of claim 15. As such, claim 15 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 16

Claim 16 depends from claim 15 and was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

In claim 16, the step of displaying a progress meter in

claim 15 is defined as multiplying the decode ratio by a full meter width to produce a progress width and dividing the progress width by a rectangle width that is indicative of the width of each background rectangle. This produces a rectangle count. The color of a number of background rectangles is then changed where the number of background rectangles is equal to the rectangle count.

None of the cited references show or suggest the steps of dividing a progress width by a rectangle width to get a rectangle count or of changing the color of a number of background rectangles equal to the rectangle count. As such, the combination of references does not show these steps.

Since none of the references show the steps of claims 16, the invention of claim 16 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claims 17 and 18

Independent claim 17 and dependent claim 18 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk in view of Tannenbaum and Imade.

Independent claim 17 provides a computer program having a least one insertion point marker that indicates a location on the display where a user desires to provide input. The computer program also includes a speech recognition routine and a meter generation routine that displays a progress meter near an insertion point based on the insertion point marker. The progress meter is quantitatively indicative of the amount of speech that has been decoded by the speech recognition routine.

The combination of VanBuskirk, Tannenbaum and Imade does not show or suggest the invention of claim 17 because none of these references quantitatively indicate the amount of speech that has been decoded by a speech recognition routine. In addition, none of these references show or suggest the ability to place such a progress meter at an insertion area.

As discussed above for claim 1, none of the cited references show or suggest a progress meter that indicates the amount of progress in decoding speech. Claim 17 is additionally patentable over the cited references because the decoding of claim 17 is performed by a speech recognition routine. None of the cited references show or suggest a progress meter that indicates the amount of speech that has been decoded by a speech recognition routine. In particular, Imade does not show or suggest such a progress meter because Imade does not mention speech recognition. Instead, Imade is a system for storing speech on paper, not for recognizing speech.

In addition, as discussed above for claim 1, none of the cited references show or suggest placing a progress meter near an insertion marker.

Since none of the cited references show a progress meter that shows the amount of speech decoded by a speech recognition unit and none of the cited references show placing a progress meter near an insertion marker, the combination of the references does not show or suggest the invention of claims 17 and 18.

Claim 19

Claim 19 depends from claim 17 and includes a limitation where a meter generation routine further comprises a transform routine that transforms a digital value into a set of coordinates for a shape on the display. The digital value is indicative of the magnitude of a portion of the speech signal. Thus, the meter generation routine of claim 19 is able to generate a progress meter that quantitatively indicates the progress of decoding while at the same time providing a shape on the display that indicates the magnitude of the speech signal.

Claim 19 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade and Tannenbaum.

In the Office Action, it was noted that none of these references specifically teach displaying a volume meter close to a

progress meter. However, it was asserted that since VanBuskirk teaches that a multi-function graphical user interface should supply information in the smallest possible space, it would be obvious to display a volume meter close to a decoding progress meter. Applicants dispute this assertion.

Applicants note that none of these references show or suggest a progress meter that quantitatively shows the amount of progress in decoding a speech signal. Thus, those skilled in the art would first have to create such a progress meter without any suggestion from these references to do so.

After the progress meter is constructed, those skilled in the art would still not have produced the invention of claim 19. To produce the invention of this claim, those skilled in the art would have to take a further step of combining the progress meter with a shape that indicates the magnitude of a speech value. However, there is no suggestion in the art for making such a combination.

Although VanBuskirk does teach that different types of information can be conveyed in the same graphical interface, it does not show or suggest that a volume meter should be combined with a progress meter. In addition, none of the references disclose how a progress meter could be displayed near a volume meter without confusing the user as to what the meters are conveying. Thus, there is no teaching or suggestion in any of the cited art for how to place a volume meter near a progress meter.

In light of the fact that none of the references show a progress meter that shows the amount of progress in decoding a speech input and that none of the references show or suggest combing such a progress meter with a shape representing the magnitude of a speech value, the invention of claim 19 is patentable over the combination of VanBuskirk, Imade and Tannenbaum.

Claim 20

Claim 20 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, and Tannenbaum as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 20 depends from claim 17 and includes a further limitation wherein the speech recognition routine decodes the speech signal into a set of subwords.

As discussed above for claim 17, the combination of VanBuskirk, Imade, and Tannenbaum does not show a quantitative progress meter and does not suggest how a quantitative progress meter can be constructed.

French-St. George also fails to show a quantitative progress meter that shows the amount of progress in decoding a speech signal. French-St. George only shows an animation related to the amount of time left for a user to provide speech to a speech recognition system. It does not discuss the progress of decoding a speech signal.

Since French-St. George does not disclose a quantitative progress meter that indicates the amount of progress in decoding a speech signal and none of VanBuskirk, Imade, and Tannenbaum show such a meter, the invention of claim 20 is patentable over the combination of VanBuskirk, Imade, Tannenbaum, and French-St. George.

Claims 21 and 29

Independent claim 21 is directed to a method in a computer system that displays a volume meter that is indicative of the magnitude of at least a portion of a speech input. The volume meter is displayed near a progress meter, where the progress meter quantitatively indicates the amount of progress in decoding the speech signal.

Independent claim 29 provides a computer program designed

to operate in a computer system having a display. The program includes a volume meter portion that is capable of displaying a volume meter, a speech recognition portion that is capable of converting human speech into a set of sub-words, and a progress meter portion that is capable of generating a progress meter that is quantitatively indicative of the amount of progress in converting the human speech signal into sub-words.

Claims 21 and 29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, and Tannenbaum.

In the Office Action, it was stated that none of VanBuskirk, Tannenbaum or Imade specifically teaches displaying a volume meter close to a progress meter. However, the Examiner asserted that VanBuskirk teaches that multiple functions should be placed in a single graphical user interface so that the interface is as small as possible and that because of this, it would be obvious to combine a volume meter with a progress meter. Applicants dispute this assertion.

Applicants note that none of these references show or suggest a progress meter that quantitatively shows the amount of progress in decoding a speech signal. Thus, those skilled in the art would first have to create such a progress meter without even a suggestion in the references that such a progress meter should be constructed and without any teachings as to how to construct such a meter.

After the progress meter is constructed, those skilled in the art would not have produced the invention of claims 21 and 29. To produce the invention of those claims, those skilled in the art would have to take the further step of combining the progress meter with a volume meter so that the two meters are displayed close together. Once again, there is no suggestion in the art for combining a volume meter with a progress meter.

Although VanBuskirk does teach that different types of information can be conveyed in the same graphical interface, it

does not show or suggest that a volume meter should be combined with a progress meter. In addition, none of the references disclose how a progress meter could be displayed near a volume meter without confusing the user as to what the meters are conveying. Thus, there is no teaching or suggestion in any of the cited art for how to place a volume meter near a progress meter.

In light of the fact that none of the references show or suggest a quantitative progress meter and therefore are incapable of showing or suggesting that such a progress meter should be placed near a volume meter, the combination of references does not show or suggest the invention of claims 21 and 29. As such, claims 21 and 29 are patentable over VanBuskirk, Imade and Tannenbaum.

Claims 22 and 23

Claim 22 depends from claim 21 and claim 23 depends from claim 22. Claim 22 includes a further limitation wherein displaying a volume meter includes storing digital values representing the magnitudes of different portions of the speech signal. A separate token is then displayed for each separate digital value.

Claims 22 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. No portions of any of these references were cited as showing a step of displaying a separate token for separate digital values representing the magnitude of a speech signal.

In fact, none of the references show or suggest displaying a separate token for separate digital values of a speech signal. Since none of the cited references show displaying a separate token, claims 22 and 23 are patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 24

Claim 24 depends from claim 23. In claim 24, a digital

value representing the magnitude of a portion of a speech signal is transformed into a transform value. This transform value is then divided by a maximum meter value to produce a meter ratio. The height of a meter portion of a token is then determined using the meter ratio and the full meter height.

Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, no section of any of these references was cited as showing a step of transforming a digital value into a transform value and then dividing the transform value by a maximum meter value.

In fact, none of the references show or suggest these steps. As such, the invention of claim 24 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 25

Claim 25 depends from claim 24 and includes a further limitation wherein determining the height comprises multiplying the meter ratio by the full meter height.

Claim 25 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, none of these references show or suggest multiplying a meter ratio by a full meter height to determine the height of a meter portion of a token. As such, the invention of claim 25 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 26

Claim 26 depends from claim 24 and includes steps of determining if the meter ratio is greater than a base ratio and if the meter ratio is greater, multiplying the base ratio by the full meter height to determine the height of a base block while subtracting the base ratio from the meter ratio to produce an

excess ratio. This excess ratio is then used with the full meter height to determine the height of a second block of the meter portion.

Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, no particular portion of any of these references was cited to support this rejection.

None of the cited references mention any of the steps of comparing a meter ratio to a base ratio, multiplying a base ratio by a full meter height, subtracting a base ratio from a meter ratio to produce an excess ratio, or using an excess ratio and the full meter height to determine the height of a second block. As such, the combination of references does not show these steps. In light of this, claim 26 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 27

Claim 27 depends from claim 26 and includes steps of comparing the excess ratio to an intermediate ratio to determine if it exceeds the intermediate ratio and if it does exceed the intermediate ratio multiplying the intermediate ratio by the full meter height to produce the height of the second block. The intermediate ratio is then subtracted from the excess ratio to produce a remainder ratio. This is multiplied by the full meter height to produce the height for a top block of the meter portion.

Claim 27 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. However, none of these references show or suggest any of the steps found in claim 27. As such, claim 27 is patentable over the cited references.

Claim 28

Claim 28 depends from claim 24 and includes steps of

dividing a number for a last decoded frame by a total number of frames to produce a progress ratio and multiplying the progress ratio by a full meter width to produce a progress width. The progress width is then divided by a token width to produce an affected number of tokens. For each of the affected number of tokens, the color of at least a portion of the token is changed so that it is different from the color of other tokens. Thus, claim 28 displays the progress meter by modifying the tokens used for the volume meter.

Claim 28 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. No portions of any of these references were cited as showing any of the steps of claim 28.

In fact, none of these references show any of these steps. As such, the combination of these references does not show or suggest the steps of claim 28. Therefore, claim 28 is patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claims 30 and 31

Claim 30 depends from claim 29 and claim 31 depends from claim 30.

Claims 30 and 31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. Since claims 30 and 31 depend from claim 29, they include the limitations to displaying a progress meter near a volume meter that are found in claim 29.

As discussed above for claim 29, the combination of VanBuskirk, Imade, and Tannenbaum does not show or suggest a quantitative progress meter in combination with a volume meter. Similarly, French-St.George does not show or suggest a quantitative progress meter that shows the amount of progress in decoding a speech signal and does not show or suggest combining such a progress meter with a volume meter. As such, the

combination of VanBuskirk, Imade, Tannenbaum and French-St.George does not show the invention of claim 29 or claims 30 and 31, which depend from claim 29. Therefore, claims 30 and 31 are patentable over VanBuskirk, Imade, Tannenbaum and French-St.George.

Claim 32

Claim 32 depends from claim 31 and includes further components for taking a frame number representing the last frame of speech that was decoded by a speech recognition system and dividing it by a total frame number representing the total number of frames found in the speech signal. It also includes a component for determining a maximum dimension for the progress meter and code for multiplying the progress ratio by the maximum dimension to produce a progress dimension.

Claim 32 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. In the Office Action, no particular sections of any of these references were cited as showing the functions described in claim 32.

In fact, none of the cited references show or suggest multiplying a progress ratio by a maximum dimension to produce a progress dimension as found in claim 32. As such, the combination of these references does not show or suggest the invention of claim 32. Claim 32 is therefore patentable over VanBuskirk, Imade, Tannenbaum and French-St. George.

Claim 33

Claim 33 depends from claim 32 and a further limitation wherein volume token program code generates a volume token based in part on the progress dimension.

Claim 33 was rejected under 35 U.S.C. § 103(a) as being unpatentable over VanBuskirk, Imade, Tannenbaum and French-St. George. No particular portions of those references were cited to

support the rejection of claim 33. In particular, no portions were cited as showing the generation of a volume token based in part on a progress dimension.

The invention of claim 33 is not shown or suggested in any of the cited references. In particular, none of the references show or suggest that a volume token should be based in part on a progress dimension. As such, the invention of claim 33 is patentable over the combination of VanBuskirk, Imade, Tannenbaum and French-St. George.

CONCLUSION

In conclusion, claims 1-33 are not shown or suggested in the combination of VanBuskirk, Imade, Tannenbaum and French-St. George. Applicants respectfully request reconsideration and allowance of claims 1-33.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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